



## **NATIONAL SCIENCE FOUNDATION**

### **Agency Information Collection Activities: Comment Request**

**AGENCY:** National Science Foundation.

**ACTION:** Submission for OMB Review; comment request.

**SUMMARY:** The National Science Foundation (NSF) has submitted the following request for revision of the approved collection of research and development data in accordance with the Paperwork Reduction Act of 1995. This is the second notice for public comment; the first was published in the FEDERAL REGISTER and no comments were received. NSF is forwarding the proposed renewal submission to the Office of Management and Budget (OMB) for clearance simultaneously with the publication of this second notice.

**DATES:** Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice to [www.reginfo.gov/public/do/PRAMain](https://www.reginfo.gov/public/do/PRAMain). Find this particular information collection by selecting "Currently under 30-day Review – Open for Public Comments" or by using the search function.

**FOR ADDITIONAL INFORMATION CONTACT:** Suzanne H. Plimpton, Reports Clearance Officer, National Science Foundation, 2415 Eisenhower Avenue, Alexandria, VA 22314; or send email to [splimpto@nsf.gov](mailto:splimpto@nsf.gov). Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339, which is accessible 24 hours a day, 7 days a week, 365 days a year (including federal holidays).

**SUPPLEMENTARY INFORMATION:**

*Title of Collection:* Computer and Information Science and Engineering (CISE)  
Research Experiences for Undergraduates (REU) Sites and Supplements  
Evaluation.

*OMB Approval Number:* 3145-0266.

*Type of Request:* Revision of an approved information collection.

*Abstract:* Every year the National Science Foundation (NSF) funds hundreds of Research Experience for Undergraduates (REU) activities through its REU program. The Directorate of Computer and Information Science and Engineering (CISE) is seeking to evaluate the effectiveness of the CISE REU program.

The REU program provides undergraduate students at US higher education institutions with opportunities to work with faculty on a research project. They can take the form of REU Sites or REU Supplements. REU Sites are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU Supplements are included as a component of proposals for new or renewal NSF grants or cooperative agreements or may be requested for ongoing NSF-funded research projects.

By offering this opportunity to undergraduate students, the REU program seeks to expand student participation in all kinds of research — both disciplinary and interdisciplinary — encompassing efforts by individual investigators, groups, centers, national facilities, and others. The REU experience integrates research and education to attract a diverse pool of talented students into careers in science and engineering, including teaching and education research related to science and engineering.

The current data collection project intends to measure the impact of the undergraduate REU Sites and REU Supplements programs sponsored by NSF CISE. The project will conduct online surveys to track NSF CISE REU

participants over time – including pre-program, post-program, and one-year post-program measurement -- alongside two comparison groups: (1) students participating in other undergraduate research, and (2) students who do not participate in research. The researchers will supplement REU participants' survey data with basic REU information and perceptions of impact from NSF CISE REU Principal Investigators (PIs). The evaluation and research questions guiding this project include the following:

1. Who are the students reached through the NSF REU Program, and how do they compare to students participating in other types of research experiences and to students in the broader CISE community?
2. How do CISE REU Sites and REU Supplements differ from other research experiences (e.g., other REUs, internships, and independent research projects)?
3. To what extent are the goals of the NSF REU Program being met by the individual projects within the program, including recruitment and retention of students in science and engineering fields and increasing diversity in these fields?
4. In what ways does participation in REU Sites, REU Supplements, internships, and/or other independent research experiences impact student attitudes and pathways to CISE careers and other research experiences?
5. In what ways does participation in the REU Sites and REU Supplements impact recruitment and retention of students who are underrepresented in computing?

Ultimately, the findings from this data collection will be used to understand and improve the impact of the CISE REU program, including increasing recruitment and retention in science and engineering and promoting a diverse group of computing/STEM careers.

*Use of the information:* The information collected through this survey will be used to evaluate the NSF CISE REU Program.

*Respondents:* There will be four types of respondents: NSF CISE REU Site and Supplement participants, a comparison group of undergraduate students who participate in other, non-NSF REU research experiences, a comparison group of undergraduate students who do not participate in research, and NSF CISE REU PIs.

NSF CISE REU participants will include undergraduate students who participate in REU projects in which the project's Principal Investigator chooses to use NSF-sponsored program evaluation services. Participants from the two comparison groups will be identified and recruited from a pool of undergraduates in computing fields who have participated in a prior survey of the Computing Research Association and have agreed to be contacted for future data collection. The participating NSF CISE REU PIs will also complete PI REU Information Forms at the beginning and end of their REUs.

*Estimated number of respondents:* The study's data collection activities will occur over an 18-month period. It is estimated that during this time, there will be approximately 1,188 NSF CISE REU survey respondents, 1,175 comparison group survey respondents, and 100 NSF CISE REU PI respondents, for a total of 2,463 respondents.

*Average time per reporting:* Each online survey for REU participants and comparison group respondents is designed to be completed in 25 minutes or less. The three REU PI forms require 15 minutes or less to complete.

*Frequency:* Each **NSF CISE REU site participant** will be asked to complete three surveys: (1) a pre-test before they begin their REU project; (2) a post-test, after their REU ends; and (3) a one-year follow-up survey. Within the data collection timeline for this project, this will allow for one full data collection cohort, plus a subset of Cohort 1 CISE REU site participants who will only complete a follow-up survey. For cohort 2, NSF CISE REU supplement participants will only complete a follow-up survey. Each **comparison group participant**, including both those with a different research experience and those with no research experience, will be asked to complete a pre-test survey and a follow-up survey occurring approximately one year later. Within the data collection timeline for this project, there will be one full data collection cycle for comparison group participants, plus a subset of Cohort 1 comparison group participants who will only complete a follow-up survey. Each **NSF CISE REU PI** will complete an Evaluation Interest Form to enroll in the evaluation, a Time 1 PI REU Information Form before their REU begins, and a Time 2 REU PI Information Form when their REU ends. Within the data collection timeline for this project, there will be one full data collection cycle for the REU PIs.

*Estimate burden on the public:* **For REU participants**, there will be one cohort of complete data collection (pre-test, post-test, and follow-up), plus a subset of Cohort 1 CISE REU site participants who will only complete a follow-up survey. For Cohort 1, it is expected that approximately 188 REU participants will complete a 25-minute one-year follow-up survey. Based on an expected 1,000 REU participant respondents per cohort, it is expected that a total of

approximately 1,000 REU respondents will complete a 25-minute pre-survey for Cohort 2. Of these 1,000 REU participant respondents, we expect approximately 70%, or 700, will complete a 25-minute post-survey. For the follow-up survey, it is expected that approximately 50% of these respondents, or N = 500, will complete a 25-minute one-year follow-up survey. This would result in 2,388 25-minute surveys completed by REU respondents, for a total of 996 burden hours for this subset of respondents.

For **comparison group participants**, there will be one cohort of data collection (pre-test and follow-up) plus a subset of Cohort 1 comparison group participants who will only complete a follow-up survey. For Cohort 1, it is expected that approximately 175 comparison group participants will complete a 25-minute one-year follow-up survey. For Cohort 2, it is expected that 1,000 respondents will complete a 25-minute pre-survey. Of these 1,000, approximately 50%, or 500, are expected to complete a 25-minute one-year follow-up survey. This would result in 1,675 surveys completed by comparison group respondents for 698 burden hours.

For **REU PIs**, there will be 18 months of complete data collection (Evaluation Interest Form and Time 1 and Time 2 REU PI Information Forms). Based on an expected 100 NSF CISE REU PIs choosing to receive evaluation services in each of the two years, It is expected that approximately 100 REU PIs will complete all forms (total completion time for all three is approximately 15 minutes or less). This would result in 25 burden hours for this subset of respondents.

Together, the total estimated survey burden for the project is 1,719 hours. The calculations are shown in Table 1.

**Table 1. Estimated Survey Burden**

Category of Respondent	Number of Cohort 1 Responses	Number of Cohort 2 Responses (Partial Year)	Participation Time	Burden
REU participant Pre-survey	Completed	1,000	25 mins	417 hours
REU participant Post-survey (70% of original)	Completed	700	25 mins	292 hours
REU participant Follow-up survey (50% of original)	188	500	25 mins	287 hours
Comparison participant Pre-survey	Completed	1,000	25 mins	417 hours
Comparison participant Follow-up survey (50% of original)	175	500	25 mins	281 hours
REU PI Evaluation Interest Form	N/A	100	3 mins	5 hours
REU PI Time 1 Information Form	Completed	100	2 mins	3.33 hours
REU PI Time 2 Information Form	Completed	100	10 mins	16.67 hours
<b>Total surveys to be completed</b>	<b>363</b>	<b>4,000</b>		<b>1,719 hours</b>

*Comments:* Comments are invited on:

1. Whether the proposed collection of information is necessary for the evaluation of the CISE REU Sites and Supplements Program.
2. The accuracy of the NSF's estimate of the burden of the proposed collection of information.
3. Ways to enhance the quality, utility, and clarity of the information on respondents, including through the use of automated collection techniques or other forms of information technology.

Dated: April 11, 2023.

**Suzanne H. Plimpton,**

*Reports Clearance Officer,*

*National Science Foundation.*